REMARKS/ARGUMENTS

In the final Office Action dated May 30, 2007, Claims 1-7, 9-17, 19-27, 29, 30, 40, and 41 are pending, of which Claims 1, 11, and 21 are independent. The previous objection to the drawings has been withdrawn. All of the claims stand rejected on the same grounds presented in the previous Office Action of December 28, 2006. Applicant respectfully requests consideration in light of the following comments.

I. Unidentified reference cited in Office Action

Before addressing the individual rejections, Applicant again notes the repeated error concerning the citation to Diamond in the Office Action and again requests identification of the reference that is being relied upon in the Office Action. In this regard, the final Office Action again refers to "Diamond et al. (US 5,180,599)," even though the listed inventors of U.S. Patent No. 5,180,599 are Feldmeier, et al., not Diamond, et al. U.S. Patent No. 5,180,599 to Feldmeier, et al. was cited in a previous Office Action for various rejections that were subsequently withdrawn. Applicant has presumed that the patent number is incorrect, and that the final Office Action was meant to rely on a patent to Diamond, et al. for the rejections. However, multiple patents of record identify Diamond, et al. as the inventors. Accordingly, Applicant again requests identification of the relied-upon reference. For purposes of this response, Applicant presumes that the final Office Action is referring to U.S. Patent No. 6,688,486 as Diamond, et al. for reasons explained in the previous Amendment of January 17, 2007. All subsequent references to Diamond, et al. in this response refer to U.S. Patent No. 6,688,486.

II. Patentability of all claims over Diamond, et al. in combination with Matuszak

Turning now to the rejections under § 103(a), Applicant first addresses the rejections of Claims 1-7, 9-17, 20-27, 30, 40, and 41 as being unpatentable over U.S. Patent No. 5,069,355 to Matuszak in view of "Diamond et al. (US 5,180,599)."

A. Independent Claim 1 and its dependent claims are not obvious over Matuszak in view of Diamond, et al.

Claim 1 is directed to an easy-opening, retortable container that includes a plastic membrane having an outer peripheral area attached to the base portion by a radiation weakened bond, the radiation weakened bond being formed of an adhesive and having a predetermined tensile force strength. None of the cited references discloses a radiation weakened bond formed of an adhesive.

Regarding the rejection of Claim 1 based on Matuszak in view of Diamond, et al., the final Office Action acknowledges that Matuszak does not disclose a radiation weakened bond formed of an adhesive. In this regard, the Office Action relies on Diamond, et al., stating that "Diamond teaches it is known to provide a container and lid, the lid being bonded to the container opening by various methods including a radiation weakened adhesive bond (col. 4, lines 64-67)." Final Office Action, page 2.

In the previous Amendment of January 17, 2007, Applicant explained that Diamond, et al. also fails to disclose a radiation weakened bond. To the contrary, Diamond, et al. discloses that radiation can be used to activate an adhesive bond. Neither the cited portion nor any other portion of Diamond, et al. provides any disclosure of a bond that is weakened by radiation to have a predetermined tensile force strength. Indeed, Diamond, et al. fails to provide any further details regarding the formation of an adhesive bond and, in particular, does not teach or suggest that such a bond can be weakened. In fact, Diamond, et al. does not even disclose that the bond, once formed, can subsequently be treated in any manner with radiation. Accordingly, even in combination, Matuszak and Diamond, et al. fail to disclose the features of Claim 1.

In response to Applicant's prior arguments, the final Office Action states as follows:

> The bond of Diamond is inherently a radiation weakened bond since the radiation must first weaken the adhesive in order for the adhesive to soften enough to create a bond. Although the bond is not stated to be radiation weakened. It is inherently one.

Final Office Action, page 9.

Applicant disagrees with this characterization of Diamond, et al. for several reasons. First, Diamond, et al. discloses a seal that "can be an adhesive material that bonds the two parts together and the bond can be activated by a variety of means including thermal energy, ultrasonics, UV or other radiation, RF energy, inertial or spin welding, etc." Col. 4, line 64 – col. 5, line 1. Diamond, et al. neither states nor inherently requires that the adhesive is weakened to create the bond. To the contrary, Diamond, et al. states that the adhesive can be activated by such means. Diamond, et al. does not disclose that any bond, once formed, is treated with radiation, or that, further, radiation weakens such a bond. *See* Declaration by Srinivas Nomula, dated July 30, 2007, paragraphs 4-5.

Moreover, even if the adhesive is softened by radiation and thereby weakened, as alleged in the final Office Action, such softening of the adhesive does not constitute weakening of a bond. To the contrary, even by the description of Diamond, et al. set forth in the final Office Action, the softening and weakening occurs in the adhesive before the bond is created. That is, the final Office Action states that "the radiation must first weaken the adhesive in order for the adhesive to soften enough to create a bond." In other words, the final Office Action merely alleges that the adhesive is softened before a bond is created, not that the bond itself is weakened. Thus, just as Applicant has previously described in connection with the now-withdrawn rejections based on Oehlenschlager, et al., any radiation weakening that is performed by Diamond, et al. occurs only before formation of the bond. See Amendment dated November 30, 2005, page 9; Amendment dated April 21, 2006, page 10. This is significantly different than the invention of Claim 1, wherein the bond itself is radiation weakened.

Further, regarding Claim 1, the final Office Action asserts as follows:

> The claimed radiation weakened bond is a product-by-process feature. The finished product of a peelably attached lid and container does not require structure of a radiation weakened bond. However, the tensile strength of the bond of a finished product is a tangible limitation which can be measured. The tensile strength can be achieved by an means of a weakened bond. As set forth in MPEP 2113, the product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps.

Final Office Action, page 9.

Applicant has previously addressed this issue and explained the significance of the recited phrase, in response to previous rejections based on Roth and Oehlenschlager, both of which failed to disclose radiation weakening. In particular, as explained in the Amendments of November 30, 2005 and April 21, 2006, both the MPEP and courts have recognized that product-by-process claims are limited by and defined by the claimed process and that the determination of patentability is based on the product itself. *See* MPEP 2113, Eighth edition, revision 2 (May 2004) (citing *In re Thorpe*, 777 F.2d 695, 698.) Further, "[t]he structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product." Id. (citing *In re Garnero*, 412 F.2d 276, 279). For example, the phrase "interbonded one to another by interfusion" is capable of being construed as a structural limitation rather than a process limitation, just as other phrases including "intermixed," "ground in place," "press fitted," "etched," and "welded," have also been held to be structural limitations. *See In re Garnero* at 279. Similarly, the term "radiation weakened bond" as set forth in the present claims is also capable of being construed as a structural limitation.

Further, the structural limitation of the recited phrase in Claim 1 requires the structure implied by radiation weakening of a bond, i.e., a bond that has been radiation weakened or a bond with a structure that is the same as a radiation weakened bond. While a radiation weakened bond may be characterized by a particular tensile strength, the recited phrase does not merely require that the closure has a particular tensile strength, and the mere characteristic of a similar tensile strength in another bond does not render such a bond as being radiation weakened or even equivalent to a radiation weakened bond. Rather, the term "radiation weakened bond" requires that a "bond" is "radiation weakened," i.e., weakened by radiation, or has the same structure as such a radiation weakened bond. *See Id.* (holding the correct inquiry to be "whether the product defined by claim 1 is patentably distinguishable over the disclosures of [the prior art] in view of the structural limitation defining the panel as 'consisting essentially of expanded perlite particles * * * interbonded one to another by interfusion between the surfaces of the perlite particles.'")

As set forth in the Declaration by Srinivas Nomula, the structure of the radiation weakened bond of Claim 1 is not the same or equivalent to the structure of an adhesive that is merely activated to form a bond as disclosed by Diamond, et al., as described above. Indeed, while the bond of Claim 1 is radiation weakened, i.e., chemically altered to reduce the bond strength, the bond of Diamond, et al. is activated or created, not reduced. As further described in the Declaration, the effect of the radiation weakening is not merely a reduction in strength but a change in the very structure of the bond. *See* Declaration by Srinivas Nomula, dated July 30, 2007, paragraph 6. Accordingly, this feature is not shown by Diamond, et al., and Applicant therefore submits that Claim 1 is allowable, as are each of the dependent Claims 2-7, 9, 10, 40, and 41.

Further, the dependent claims provide additional bases of distinction over the cited references. For example, Claim 10 recites that "the bond is weakened by microwave radiation." None of the cited references disclose a bond that is weakened by microwave radiation. As noted above, Matuszak specifically states that the seal integrity allows reheating by microwave energy, i.e., the bond withstands the microwave energy. Diamond, et al. discloses that a bond is activated by radiation, not that the bond is weakened. Claim 6 recites that "the membrane is formed of a co-extruded sheet of polypropylene and ethylene vinyl alcohol." Claim 7 recites that the membrane includes oxygen scavengers disposed in polyolefin. (Claims 16 and 17, which depend from Claim 11, include similar features.) The final Office Action merely states that it would have been obvious "to use any material including polypropylene, ethylene vinyl alcohol and oxygen scavenger disposed polyolefin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice as evidenced by Matuszak." Final Office Action, page 4. Applicant disagrees because the substitution of materials is not obvious where the reference that is relied upon is directed to the use of a particular type of material and teaches away from the claimed invention.

Claim 41 specifically recites that "the radiation weakened adhesive consists of radiation weakened polyurethane." None of the cited references teach the use of a closure that includes radiation weakened adhesive and, in particular, radiation weakened polyurethane.

B. Independent Claim 11 and its dependent claims are not obvious over Matuszak in view of Diamond, et al.

Similarly, the other independent Claims 11 and 21 are distinguishable from the cited references. In particular, independent Claim 11 stands rejected as being obvious over Matuszak in view of Diamond, et al. Claim 11, which is directed to an easy-opening, retortable container, recites a plastic membrane having an outer peripheral area attached to a base portion by a bond, "the bond being formed of an adhesive and having a predetermined shear force strength and configured to be radiation weakened to have a predetermined tensile force strength." The "predetermined shear force strength of the bond is sufficient to withstand forces created during retort processing of the container, and the predetermined tensile force strength of the bond allows easy-opening of the container by peeling the membrane from the base portion." Thus, once the bond is formed, the bond has the predetermined shear force strength and is also configured to be radiation weakened.

The final Office Action alleges that Diamond, et al. discloses radiation treatment for softening an adhesive. However, as noted above, the radiation mentioned by Diamond, et al. is not used for weakening a bond. Moreover, in relation to Claim 11, Diamond, et al. does not teach that any bond, once formed to have a predetermined shear force strength, is configured to be radiation weakened. That is, Diamond, et al. merely teaches that a bond can be activated by radiation, not that the bond has any predetermined strength before being treated with radiation or that the bond is configured to be weakened by the radiation. Indeed, it is not clear that any bond exists in the structure Diamond, et al. before being activated by radiation (or other means), that any predetermined strength is attained before the activation, or that the formed bond can then be treated with radiation for weakening the bond and achieving a predetermined tensile force strength.

Accordingly, even in combination, the cited references including Diamond, et al. Matuszak fail to disclose the features of Claim 11 and its dependent Claims 12-17, 19, and 20.

C. Independent Claim 21 and its dependent claims are not obvious over Matuszak in view of Diamond, et al.

Independent Claim 21, which is directed to an easy-opening closure, similarly recites a plastic membrane having an outer peripheral area overlapping and attached to an intermediate area of a plastic end ring by a bond, "the bond being formed of an adhesive disposed between the plastic end ring and the plastic membrane and having a predetermined shear force strength and configured to be radiation weakened to have a predetermined tensile force strength." The "predetermined shear force strength of the bond is sufficient to withstand forces created during retort processing of the container, and the predetermined tensile force strength of the bond allows easy-opening of the container by peeling the membrane from the end ring." Claim 21 stands rejected on two bases, which are addressed separately below.

In the rejection of Claim 21 as being obvious over Matuszak in view of Diamond, et al., the final Office Action acknowledges that Matuszak does not disclose a radiation weakened bond formed of an adhesive and relies on Diamond, et al. As noted above, Diamond, et al. does not teach or suggest a bond that has a predetermined shear force strength and which is configured to be radiation weakened to have a predetermined tensile force strength. In other words, Diamond, et al. does not disclose that a bond of any significant strength even exists before being activated (e.g., by radiation, welding, or other means). Further, Diamond, et al. does not disclose that a bond exists (either before or after activation) that is configured to be radiation weakened.

III. Dependent Claims 9, 20, and 29 are not obvious over Matuszak in view of Diamond, et al. and Reese, et al.

Claims 9, 20, and 29 are rejected under § 103(a) as being unpatentable over Matuszak in view of Diamond, et al. and U.S. Patent No. 6,302,321 to Reese, et al. However, independent Claims 1 and 21 are patentable over Matuszak in view of Diamond, et al. for the reasons set forth above, and Reese, et al. fails to cure the deficiencies of Matuszak and Diamond, et al. Accordingly, Claims 9, 20, and 29 should be allowable for the same reasons.

IV. Independent Claim 21 and dependent Claims 22-27 are not obvious over Nelson, et al. in view of Matuszak

Claims 21-27 are rejected under § 103(a) as being unpatentable over U.S. Patent No. 5,752,614 to Nelson, et al. in view of Matuszak.

In this regard, the final Office Action states that Nelson discloses an "adhesive *configured* to be radiation weakened to have a predetermined tensile force strength, an end ring that "is *configured* to be fusion welded to the container," and a "bond *adapted* to be weakened by microwave radiation." Final Office Action, page 4 (emphasis in original). The final Office Action acknowledges that Nelson does not teach that the ring and membrane are plastic as claimed, but asserts that it would have been obvious "to form the container and lid of Nelson of plastic material and to use any material including polypropylene, ethylene vinyl alcohol and oxygen scavenger disposed polyolefin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice as evidenced by Matuszak." Final Office Action, page 6.

Applicant respectfully disagrees on two separate bases. First, according to the final Office Action, "the phrases 'configured to be' and 'adapted to be' do not positively set forth the structure set forth thereafter, but indicates the capability of the structure being possible. To that degree, the claims are met by the structure of Nelson." Final Office Action, page 5. However, even under this construction of claim, Nelson, et al. does not teach that the adhesive bond is configured to be radiation weakened to have a predetermined tensile force strength as recited in Claim 21 (or that the plastic end ring is configured to be fusion welded to the container and the bond is adapted to be weakened by microwave radiation, as recited in Claims 22 and 30, respectively). To the contrary, Nelson, et al. discloses a closure with a metal end ring and a heat-sealable material used for a heat-seal bond. Nelson, et al. does not disclose that such a heat-seal bond formed is also capable of being radiation weakened. Nor is such a bond inherently configured to be radiation weakened. To the contrary, Nelson, et al. suggests that the seal is formed using heat, and not that radiation would weaken the bond. Further, Nelson, et al. does not provide any motivation for instead providing a configuration in which the adhesive can be radiation weakened. Similarly, Matuszak does not teach or suggest this feature. In fact, Matuszak specifically teaches that the closure should have "seal integrity to allow a retort /sterilization process and reheating by microwave energy." Col. 2, lines 14-24. That is, Matuszak teaches away from an adhesive bond that is configured to be radiation weakened, and instead discloses a bond that is maintained even when subjected to microwave energy.

Second, Applicant also disagrees with the assertion that it would have been obvious to use any material for the various structures of Nelson, et al. "including polypropylene, ethylene vinyl alcohol and oxygen scavenger disposed polyolefin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice as evidenced by Matuszak." The final Office Action cites the "intended use" and the "suitability" of the materials, but the "intended use" and thus the "suitability" of the materials for use in the device of Nelson, et al. do not include the claimed configuration. That is, Nelson, et al. does not suggest any reason for modifying the configuration so that the adhesive can be radiation weakened. Nor does Matuszak evidence that it would have been obvious to modify the closure of Nelson, et al. to be formed of plastic with the adhesive bond configured to be radiation weakened. Matuszak is directed to a closure that can be reheated by microwave radiation and defines a predetermined peel strength at an interfacial plane of a multilayer structure for controlled delamination of the layers. *See* col. 2, lines 30-44. A modification of Nelson, et al. to include the recited materials for the "intended use" described in the present application relies on improper use of hindsight in light of the present invention. This argument was previously raised in the Amendment filed January 17, 2007 but is not even addressed in the final Office Action.

Accordingly, Applicant submits that the cited references, even in fair combination, do not teach or suggest the invention of Claim 21 and cannot be fairly modified to achieve the invention. The other cited references also fail to cure these deficiencies. Thus, Claim 21 is patentable over the references, as are each of Claims 22-27, 29, and 30, which depend therefrom.

V. All claims are patentable over Nelson, et al. in view of the various combinations of Diamond, et al., Matuszak, and Reese, et al.

The remaining rejections rely on various combinations of the above-described references in additional combination with Nelson, et al. For example, Claim 29, as discussed above, is rejected as being obvious in view of Matuszak, Diamond, et al., and Reese, et al. Further, Claim 29 is rejected as being unpatentable over Nelson, et al. in view of Matuszak and Reese, et al. Claims 1-7, 10, and 41 are rejected as being obvious over Matuszak and Diamond, et al., as discussed above, and are further rejected as being obvious in view of Nelson, et al., Diamond, et al., and Matuszak. Claims 9 and 41 are rejected under § 103(a) as being unpatentable over Nelson, et al. in view of Diamond, et al., Matuszak, and Reese, et al. Claims 11-17, 19, and 20 are rejected under § 103(a) as being unpatentable over Nelson, et al. in view of Diamond, et al. and Matuszak.

As noted above, Nelson, et al. fails to cure the deficiencies of the other cited references. For example, as discussed in connection with Claim 21, above, Nelson, et al. discloses a closure with a metal end ring and a heat-sealable material used for a heat-seal bond and fails to teach that such a heat-seal bond formed is also capable of being radiation weakened or that such a bond is inherently configured to be radiation weakened.

Accordingly, Applicant submits that the claims are allowable for the above reasons, even when Nelson, et al. is combined with any of the above-noted combinations of references.

* * * *

CONCLUSIONS

In view of the remarks presented above, Applicant submits that the pending Claims 1-7, 9-17, 19-27, 29, 30, 40, and 41 are allowable and the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

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